



Technical Assistance Services for Communities
Contract No.: GS-10F-030N
TASC WA No.: EP-G13S-00087
TD No.: R9 #10 Aerojet General Corp. Superfund Site

Site Name: Aerojet General Corp. Superfund Site
Site Location: Sacramento County, California

**Development and Implementation of Institutional Controls
at Operable Unit 6 (OU6)¹**

September 6, 2013

The OU6 Proposed Plan proposes to implement institutional controls (ICs) in areas where ground water vapors from a TCE ground water plume (being addressed through the Operable Unit 7 (OU7) remedial process) may pose unacceptable risks to human health and safety. The ICs could either restrict residential and other uses, or permit residential use provided vapor mitigation is installed. Attachment 1 shows where OU6 overlaps with proposed development. Attachments 2 and 3 show the location of the TCE plume (as represented in Figure 6-1 of the OU6 Feasibility Study), the proposed location of ICs and proposed residential development. This document provides further information about how the ICs for OU6 would be developed and implemented.

1. A site-wide Partial Consent Decree (signed in 1989, modified in 1998 and 2001) requires that Aerojet seek authorization from EPA for any change in use or transfer of property. The 2001 modification excluded 2,600 acres referred to as the "Carve-Out Lands" from this requirement and placed deed restrictions on these lands related to ground water use and restricting residential use in a specific area. For the remaining 5,900 acres, Aerojet may not sell or develop the property without authorization from EPA. Before authorizing any change in land use, EPA will verify that the remedial action is complete and that institutional controls (ICs) are in place to protect present or future human health, safety or the environment, as a result of the presence of hazardous materials on the land.
2. At the conclusion of the OU6 Proposed Plan comment period, EPA will develop the Record of Decision (ROD) for OU6. This decision document will include a requirement to place institutional controls on property that will not be cleaned up to unrestricted use standards during the remedial action. EPA estimates the ROD will be issued in late 2013.

¹ Information in this handout was obtained through discussions with staff from EPA, the California DTSC and the CVRWCB in August 2013.

3. Once the ROD is complete, EPA will develop a Unilateral Administrative Order (UAO), with a detailed Statement of Work (SOW) to direct completion of the remedial action. These documents will spell out provisions for IC development and implementation at OU6. The provisions may be similar to those developed for OU5. Examples of this language are in the OU5 UAO (p. 23) and SOW (p. 14). EPA estimates these documents will be issued in mid-2014.
4. The California Department of Toxic Substance Control (DTSC) and Central Valley Regional Water Control Board (CVRWQCB), in coordination with US EPA and Aerojet, will then develop and implement the ICs after the remedial action plan and remedial action phase. DTSC will refer to the ROD, the UAO and the SOW as well as the DTSC's land use covenant model and own IC and vapor control guidance. ICs will include a land use covenant that Aerojet is required to record on the property in the form of a deed restriction to prohibit certain uses and/or require vapor mitigation for areas subject to vapor contamination from contaminated soil or ground water. ICs may also restrict land use while a soil vapor extraction (SVE) system or cap is in operation. ICs may prohibit non-interference activities that ensure protection or place requirements on land use that ensure the protection and proper functioning of the system until cleanup levels are achieved.
5. Once the OU6 remedial action is complete and any necessary ICs are recorded as a deed restriction on the property, Aerojet may then request authorization from EPA, DTSC and CVRWCB for a change in land use to sell or develop the property not currently included in the Carve-Out Lands. EPA will ensure that ICs are in place before authorizing a change in land use. This could be expected as early as 2014 but is dependent on completion of cleanup and the phasing of Aerojet's development plans.
6. The recorded ICs run with the land. When the property is sold, the prospective property owner will be notified of any use restrictions or vapor mitigation requirements in the deed restriction as part of the real estate full disclosure process.
7. Before developing the property, the developer may need to request a change in zoning if the proposed use differs from the current zoning and must obtain a building permit from the local jurisdiction (Sacramento County or the City of Rancho Cordova). The process and entity responsible for enforcing the land use or vapor mitigation requirement, reviewing vapor mitigation plans and specifications, and inspecting construction of vapor mitigation system has not yet been determined. While there is not a precedent at DTSC or CVRWCB for this process, this is subject to discussion between the agencies and current property owner. The recorded ICs will contain access for DTSC or agencies for inspecting, monitoring or conducting activities consistent with the IC. They will also make provisions to allow another party responsible for implementing operation and

maintenance access to carry out these activities, or fall upon the property owner to inspect and report on an annual basis.

8. Once the vapor mitigation system is installed and the developer sells the property to a homeowner, the homeowner will be notified of the same deed restrictions regarding use restrictions and vapor mitigation requirements through the real estate full disclosure process. The deed restrictions would include property owner requirements for inspecting and maintaining the system, notifications to subsequent buyers or renters of the property, and submittal of an annual report to DTSC and the CVRWCB documenting the system's performance.
9. Homeowners or a related entity such as a homeowners association may be responsible for inspecting and maintaining the vapor mitigation system and submitting an annual report to DTSC documenting that the system is still in place and functioning.
10. DTSC will be responsible for ensuring that all annual reports are completed and pursuing follow-up enforcement for absent reports as well as reporting absent or malfunctioning systems. The property owner is responsible for reporting violations and detailing the steps taken to return to compliance.
11. Every five years, EPA will conduct a Five-Year Review of the OU6 remedy, which includes making sure that the ICs are in place and protective.

Appendix A:

Sample language from OU5 Scope of Work, page 14

Within thirty (30) days of a written request from EPA or thirty (30) days prior to the transfer of property within OU-5 that is not subject to existing EPA-approved Institutional Controls, whichever is the earlier date, Respondents shall submit for review by the Agencies and then record, after obtaining EPA's approval, a Declaration of Covenants and Environmental Restrictions (Declaration of Covenants) for areas of contaminated soil that have not attained residential cleanup objectives for land to be developed within OU-5. The Declaration of Covenants shall include the following restrictions: 1) No excavation of soil without approval of the Agencies except if required by the RA; 2) No construction without use of vapor barriers in areas of VOCs; and 3) Agencies' rights of access. The Declaration of Covenants for particular categories of contaminated soil areas shall be substantially in the form of the applicable template provided in Attachment E, subject to review, approval, and further modification by EPA.

OU5 Statement of Work, Attachment E, page 4

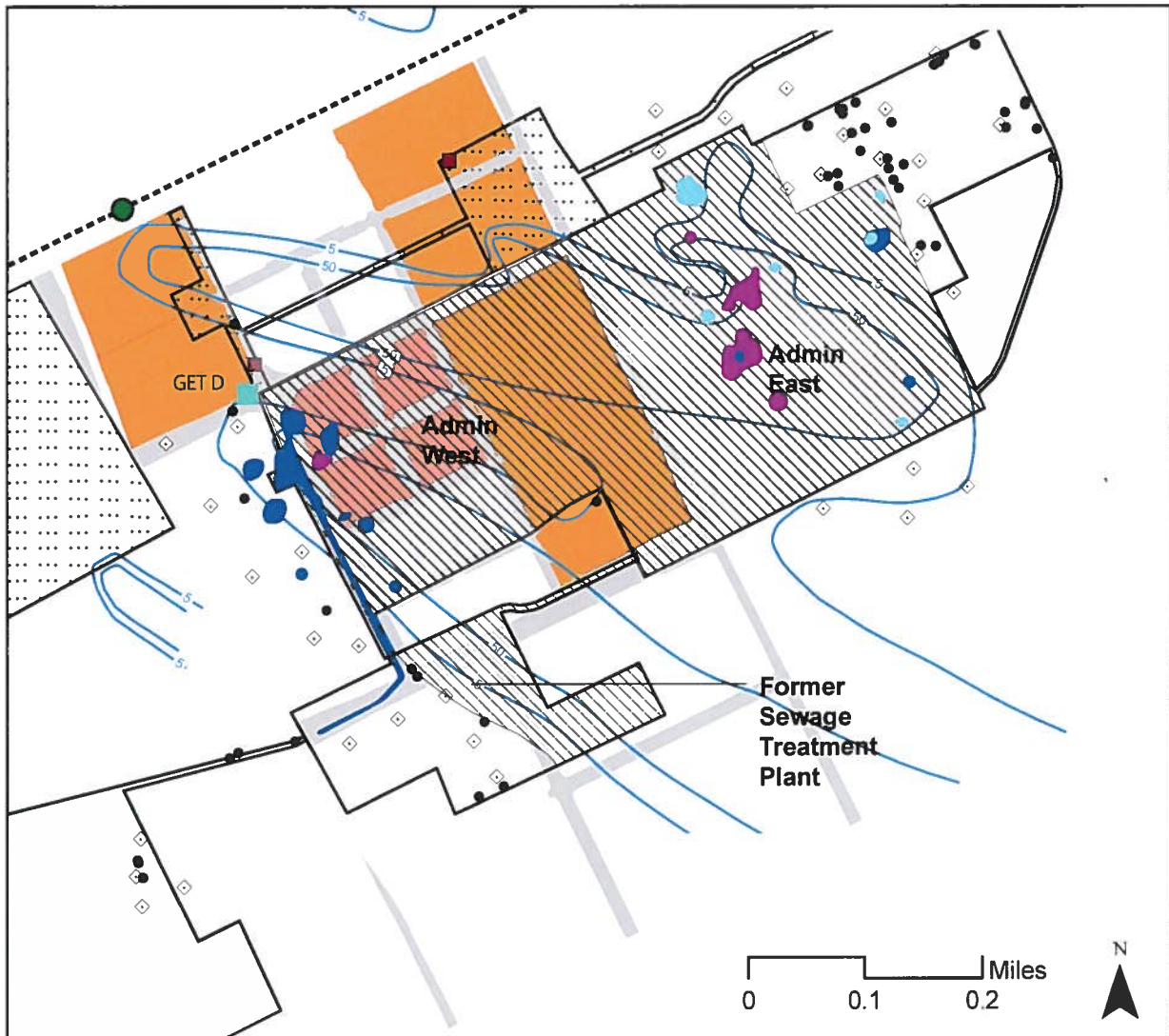
Development Restriction -- Vapor Mitigation. The following development restriction applies to the Property and to every portion thereof:

*(1) No person shall construct any building for industrial or commercial purposes on any portion of the Property unless and until a vapor mitigation system ("**Vapor Mitigation System**") to prevent movement of contaminant vapors into any such building in accordance with the PGOU ROD is either approved or waived by the Regulatory Agencies, as follows:*

*(a) Request for Approval Relative to Vapor Mitigation. For purposes of this section 1.3(e)(1), the term "**Request for Approval Relative to Vapor Mitigation**" means a written application signed by an Owner or Occupant or its authorized agent or contractor that sets forth (A) the legal description and, if available, street address of the affected portion of the Property; (B) the name, mailing address, telephone number, and other pertinent information about the Owner of that portion, all persons holding mortgages, deeds of trust, or other monetary encumbrances upon that portion, and the contractor or contractors, if any expected to construct, operate or maintain the Vapor Mitigation System, as appropriate; and (C) such other pertinent information as Covenantor and/or the Regional Board (or its designated State agency) shall request. If the Request for Approval is to obtain approval not to construct, operate or maintain Vapor Mitigation, such notice shall also be provided to Covenantor.*










(b) Upon receipt of a Request for Approval Relative to Vapor Mitigation, the Regulatory Agencies (and Covenantor, if notice is required to be given to Covenantor) shall consider such request and issue their written approvals or denials thereof on a timely basis, which shall not be unreasonably withheld, which approvals or denials, if issued, shall include appropriate conditions subject to which the Vapor Mitigation System may be constructed, operated or maintained and monitored for effectiveness.

Recommended Remedial Alternatives and Proposed Residential Land Use Areas Administration Area






Key



OU 6 Remedial Considerations (Administration Area)

-  OU6 Management Areas / Open Space Areas
(Management areas containing source sites and open space areas, based on Figure 1-1; Final BOU FS, Sept. 2012)
-  Remedial Areas for Capping
(Alternative 3 in BOU Proposed Plan to address soil impacts)
-  Remedial Areas for Excavation
(Alternative 4 in BOU Proposed Plan to address soil impacts)
-  Remedial Areas for Soil Vapor Extraction
(Alternative 4 in BOU Proposed Plan to address soil vapor impacts)
-  Institutional Controls for Land Use / Development
(to restrict property use (e.g., prohibit residential use) or to establish management controls (e.g., vapor barriers) that would allow residential use)
-  TCE First Water Contour
(TCE isoconcentrations in $\mu\text{g/L}$ for first ground water encountered; based on Figure 6-1; Final BOU FS, Sept. 2012)
-  Soil
-  Soil
-  Vapor
- Sampled Locations Not Retained for Alternatives Evaluation**
(Soil and Soil Vapor Sample locations, based on Figures 1-24 and 1-25; Final BOU FS, Sept. 2012)




Proposed Easton Place Development (Uses with residential component)

-  Commercial Mixed-Use
-  High Density Residential
-  Major Road

General Features

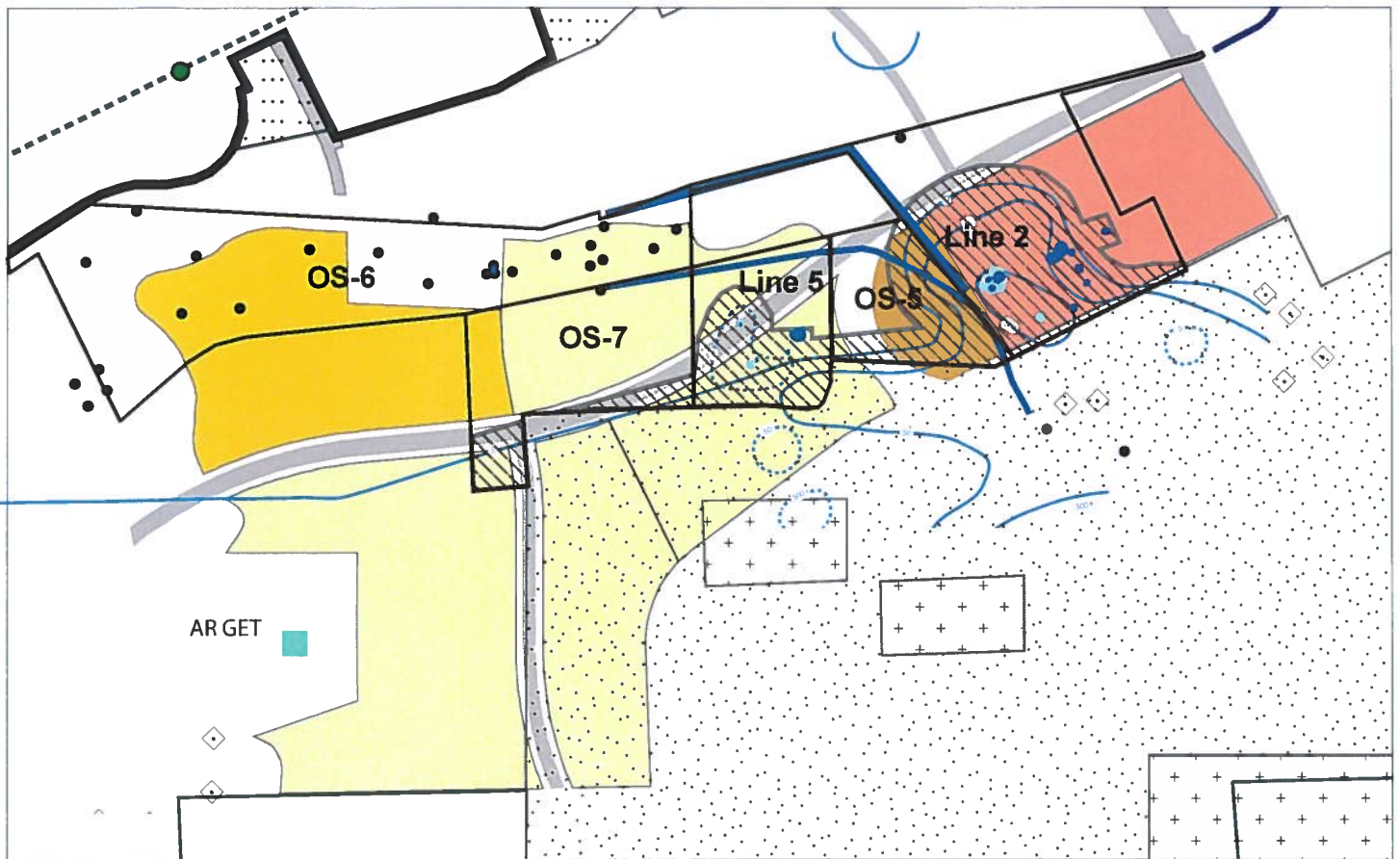
-  Aerojet Boundary
-  Light Rail

Remedial Considerations for Other OUs

-  OU5 Perimeter Groundwater
(Soil Medium)
-  OU5 Soil Hot Spots
-  Ground Water Extraction and Treatment Facility
- GET D**









Recommended Remedial Alternatives and Proposed Residential Land Use Areas

Buffalo Creek, Line 2, Line 5 and West Lakes Open Space Areas



Key

OU 6 Remedial Considerations (Buffalo Creek Area)

-  OU6 Management Areas / Open Space Areas
(Management areas containing source sites and open space areas, based on Figure 1-1 in 2012 BOU Feasibility Study)
-  Remedial Areas for Soil Excavation
(Alternative 4 in BOU Proposed Plan to address soil impacts)
-  Remedial Areas for Soil Vapor Extraction
(Alternative 4 in BOU Proposed Plan to address soil vapor)
-  Institutional Controls for Land Use / Development
(to restrict property use (e.g., prohibit residential use) or to establish management controls (e.g., vapor barriers) that would allow residential use.)
-  Soil Sampled Locations Not Retained for Alternatives Evaluation
-  Soil Vapor
(Soil and Soil Vapor Sample location, based on Figure 1-28; Final BOU FS, Sept. 2012)
-  TCE First Water Contour
(TCE isoconcentrations in $\mu\text{g/L}$ for first ground water encountered; based on Figure 6-1; Final BOU FS, Sept. 2012)
-  TCE Perched Ground Water Contour
(TCE isoconcentrations in $\mu\text{g/L}$ for perched ground water; based on Figure 6-1; Final BOU FS, Sept. 2012)





Proposed Westborough Development (Uses with Residential Component)

-  Commercial/Mixed Use
-  High Density Residential
-  Low Density Residential
-  Medium Density Residential
-  Major Road

General Features

-  Aerojet Boundary
-  Light Rail

Other Operable Units

-  OU5 Perimeter Groundwater (Soil Medium)
-  OU7 Island
-  OU9 Central
-  Ground Water Extraction and Treatment Facility